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EDUCATION FOR WHATEVER COMES.

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OUR EDUCATIONAL, GOVERNMENTAL, RELIGIOUS, AND COMMUNITY AGENCIES ARE RESPONSIBLE FOR PREPARING INDIVIDUALS NOT ONLY FOR A WORLD OF WORK BUT MORE BASICALLY FOR A WORLD OF RAPID AND DRAMATIC CHANGE. AN 8-STATE COOPERATIVE PROJECT CALLED "DESIGNING EDUCATION FOR THE FUTURE" HAS MADE AN EFFORT TO PREDICT CHANGES WHICH SOCIETY WILL EXPERIENCE BY THE YEAR 1980 AND RELATE THESE CHANGES TO THE EDUCATIONAL SYSTEM. RESULTS INDICATE THAT UNLESS OUR EDUCATIONAL SYSTEM IS MARKEDLY UPDATED, MASSIVE PROBLEMS LOOM IN THE NEAR FUTURE. IT IS REASONABLE TO CONCLUDE THAT--(1) THE EDUCATOR'S PERSONAL ATTITUDE RATHER THAN THE METHODS HE EMPLOYS HAS THE LARGER IMPACT ON THE STUDENT, (2) THE QUALITY OF EDUCATION MUST BE STRENGTHENED AND MADE MORE PERSONAL, (3) EMOTIONAL REACTION MUST BE REPLACED BY CRITICAL THINKING ON THE PART OF FUTURE STUDENTS, (4) CREATIVE TEACHING MUST BE ENCOURAGED IF STUDENTS ARE TO BE PREPARED FOR A WORLD IN WHICH KNOWLEDGE WILL HAVE ADVANCED TO LEVELS WE CANNOT NOW PREDICT, AND (5) THE TRAINING OF LEADERS MUST BECOME THE BASIC STRATEGY IN THE PREPARATION OF YOUTH FOR WHATEVER MAY COME. THIS SPEECH WAS DELIVERED AT THE STATE 4-H LEADERS SCHOOL (UTAH STATE UNIVERSITY, LOGAN, MARCH 18, 1968). (DA)

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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EDUCATION FOR WHATEVER COMES

By

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An Address
Delivered at the State 4-H Leaders School
Utah State University
Logan, Utah March 18, 1968

When Amy Kearsly invited me to speak at the opening general session of your State 4-H Leaders School, she suggested that I use the central theme of an address which I had delivered previously to an Association of professional educators. I was a little apprehensive until I reviewed the contents of your 4-H Club Leaders Handbook and was reminded that your major function as 4-H Leaders is education, and that your programs are designed to complement the training children and youth receive in the home, the church and the school. Whenever I speak of educators or teachers and students during the next thirty minutes, will you therefore be assured that these terms include you and the young people with whom you work in 4-H.

During the summer of 1966, while in Washington, D.C., attending a meeting sponsored by the Department of State, I had the opportunity--along with other educators interested in the social studies--to hear The Honorable Dean Rusk, Secretary of State, make a profound and provocative statement which I should like to use as my text this evening. Speaking on the kind of education which shall be most reliable in the days and years ahead, Secretary Rusk concluded his address with these words: "If young people ask 'For what must I be prepared?' you as educators will need to say, 'You will need to be prepared for whatever comes'."

"How vague! How general! How impossible!" the pessimistic, the cynical, the conformist might react. Yet, in a universe in which rapid change is its major characteristic, we somehow must understand the nature of change and be prepared to cope with its hazards as well as its advantages.

If the average young person of today is to have five different jobs in his lifetime, does not this fact in itself suggest much to leaders of youth? If the present generation in its adulthood is to work only 25 or 30 hours per week, does not this fact also suggest a few disturbing thoughts to educators? If the world in which we live is to become more and more "one world", must not program planners also be alert as to changes that are needed in education?

If new research concerning the learning process is valid, will not teacher-preparation institutions, architects, school board members, and educators

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themselves have to modify some of their past thinking and actions? If individuals are as different as has been claimed for the last fifty years, do not subject-matter, teaching techniques, approaches to evaluation, and use of instructional aids have to be reappraised in terms of modern knowledge?

If ignorance, poverty, delinquency, and a low quality of critical thinking stem, in some measure, from what educators are not achieving, is it not time to think of some drastic changes?

In my office files is a thick folder marked "The World of Tomorrow" into which, during recent months, I have dropped numerous articles. To glance through this folder and to contemplate the shape of things to come is both exciting and frightening.

One article reports on 2000 ton supersonic passenger planes traveling at more than 1500 miles per hour and carrying 300 to 400 passengers. The first of these mammoth planes is in the preliminary stages of construction at Boeing Arcraft Corporation.

Another describes the new superliners to Europe carrying 6000 passengers each at a cost of $50 per person each way. The probable date of a first launching --1969.

A third is the report of a speech by Dr. Bortz, a former president of the American Medical Association, in which he predicts a human life-span of 125 to 150 years.

An article by David Sarnoff of the Radio Corporation of America forecasts atomic batteries "long before 1980" and a new form of light known as electronic light.

Other articles predict the use of solar and atomic power for homes, automation on farms, electronic air-conditioning, and large scale climate control.

But there are also articles on the threat of overpopulation, on the explosive potentialities in the widening gap between "have" and "have not" nations, on the likelihood of more widespread racial conflict, and on the terrifying possibilities of a super-scientific war with nuclear, chemical, and biological weapons.

With changes coming so rapidly, one realizes how risky it is to hazard guesses on the state of the world even in the next few months and how difficult it is to predict with any degree of certainty what the world will be like in five, ten, or twenty years. Who, for example, would have said ten years ago that scientists would blast a manned missile into space in 1966 that would orbit the earth safely for several days and would permit one of its occupants to actually walk in space?

There are, however, a few characteristics of the years ahead of which we can be reasonably certain, and for which we in education have a major responsibility for preparing ourselves, and our students:

> The world of tomorrow will be a world of four or five billion people, as compared with our present 2.8 billion;
>
> The world of tomorrow will be a world of airplanes, jets, and space ships and of vastly different communications systems;
>
> The world of tomorrow will be one of atomic power and automation and of increased leisure time;
>
> The world of tomorrow will be one of new political alignments, new world powers, and will be marked by intense ideological competitions;
>
> The world of tomorrow will be a world of tremendous mobility of population.

Much of this sounds very attractive; yet the prospect is not entirely pleasing. These technological advances will bring massive changes in personal life. Unfavorable conditions accompanying these changes can make mental illness more prevalent than it is today. Crime and delinquency can increase with urbanization; softness-perhaps weakness--can follow decreased work time and increased leisure. The insistent demand for technical specialization may crowd out the broad personal development that comes through study and practice in the humanities.

Not long ago, READER'S DIGEST reprinted an advertisement which was originally published, tongue in cheek, in THE MINES MAGAZINES. The ad read: "Wanted: Man to work on nuclear fissionable isotope molecular reactive counters and three-phase cyclotronic uranium photosynthesizers. No experience necessary."

And there is as much truth as humor in that, too. For how do you find experienced men in a field that never existed before? Yet these new fields are opening up every day, with new products and new processes that will again be obsolete tomorrow.

One of the most thought-provoking studies I have read on this whole subject of technological change was in a paper presented last May by Professor James Bright of the Graduate School of Business Administration at Harvard.

Professor Bright says: "Automation may be the public whipping boy, but it is only one of the directions of technological change.

"Consider the impact of the missile on aircraft manufacturing: It reduced aircraft manufacturing employment to less than one-third of the number so

employed eight years ago. It created literally thousands of new suppliers around advanced technical specialities. It shifted the location of employment, upgraded manufacturing skills required, changed the educational background needed by designers, required different plant facilities, processes and new service activities. It created demands for new power sources, new fuels, new materials, control systems and test instrumentation. A basic and applied research activity has resulted which is, in itself, larger than most traditional industries. Meanwhile the missile is indirectly reducing many activities required to support the traditional form, quantity and operation of military aircraft."

The implications for education, government, church, and community agencies are apparent. Education, especially, takes on a new dimension. Our institutions must prepare students, not only for the world of work, but must prepare them for a dramatic world of change!

Throughout the United States, educators are looking ahead--with the aid of multi-million dollar federal appropriations. One project in our area has stirred the Nation's interest. During the last two years, educators in the Rocky Mountain States have been using every medium short of Gypsy fortune tellers to predict what kind of society will evolve 15 years from now. The urge to look ahead has been spurred by an eight state project known as Designing Education for the Future. The United States Office of Education has funneled federal funds into this project in an effort to anticipate changes in society and to determine the implications for education.

Looking at the world of 1980 through both rose-colored and dark glasses, educators meeting cently in Denver, saw a society altered by vast changes in economics, science, technology, government and politics, transportation, communications, labor, and leisure. Underscoring this conference on "Prospective Changes in Society by 1980" were implications for corresponding responses in education by 1980. For example, members of the conference, mostly administrators from State School Offices and local districts, University personnel and School Board Members -- stated that:

By 1980 there will be few, if any, conventional inter-city passenger trains left in service. Automatic highways, which take control of a Passenger car, may be in operation. This automated 1980 automobile, traveling either on its own wheels or on a simple platform, will free the driver from operating the vehicle. There will be one car for every two people in 1980.

During the 1980's, if water pollution is not checked, Lake Erie will begin to congeal. The cost of preventing air pollution from creating a major health menace may be the elimination of the internal combustion engine.

Synthetic organs may be developed to replace diseased or damaged natural organs, or else a means of inducing these organs to regenerate or reproduce themselves may be discovered.

Education may be obtained through electronic impulses or the injection of an artificial virus that would "infect" brain cells with knowledge.

Participants in the Denver Conference agreed that each of these problems will demand more and new methods of education. They point to the obsolescence of our educational system, which, unless changed, will create massive problems in the near future.

Louis Bruno, State Superintendent of Education in Washington, summarized the Denver Conference, and at the same time expressed the difficulty of predicting future changes, in these words: "Anyone asking a person to predict the state of education three decades from now, should be forced to consider how well he might have guessed the shape of 1968 education in 1931.

"I wonder how many people in 1931 predicted that 1968 schools would be preparing their charges to contend with manned flights to the moon, atomic ships and power plants, computers and automation, 2000-mph aircraft, teaching machines, LSD, and a place called Viet Nam?" Bruno continued.

"Man's knowledge is expected to increase 16 times in the next thirty-five years. Today there are 5000 kinds of business that didn't exist in 1957. Our schools are preparing children for a future in which sixty percent of them will hold jobs that haven't been invented."

"If students are to be prepared for a life of continual change," Bruno declared, "education will have to forsake all emphasis on rote learning, and teach them <u>how</u> to learn instead.

"Adaptability to new situations, new problems, and new ideals will be required for survival in the labor market. It is essential that students be given the tools and methods to think. Only then can the schools of the future prepare their students for life in the last quarter of this century."

What is the functional significance of all this educational "skywriting" to members of this audience? What might we do to face this challenge through our respective educational organizations?

I think we all recognize, when we're best in tune with ourselves, that it's the <u>People</u> we are as educators, rather than the methods we use, that influence the personalities and characters of our students. If we've worked long enough with open hearts and minds with the students - if we've slowly, painstakingly, heartfully built an educational program - then we've come to know that <u>what</u> we do to and for the students is not the only determinant of their well being; that <u>who</u> does it in what state of feeling, in what emotional climate is also highly significant; that the institution as a whole - its nature, its relationships, its process - is important, too.

If we are to be successful in educating children and youth for whatever comes, the quality of the teaching act must be improved and humanized. Within this context, these familiar cliches assume vital significance:

"What we are -- we teach!"

"These also teach: Your clothes, Your voice, Your smile."

"Teachers make teaching. And teachers are persons first of all, getting the results they get chiefly because they are personalities."

If students are to be educated for whatever comes, it appears that several of the old-fashioned verities might again become fashionable:

Each student should be helped to understand himself as well as the world in which he finds himself.

Each student should be helped in developing a philosophy of life which includes respect for himself and for all other peoples.

Each student should be helped in choosing and accepting those responsibilities which he has the ability to execute.

Each student should be helped in realizing that less than his individual best is unacceptable in school, in 4-H, or anywhere in society.

Each student should be helped in accepting the fact that learning is a life-long process, and that change is the chief ingredient of progress.

Each student should be helped in learning that freedom vanishes where individual initiative and responsibility are not virogously encouraged.

These verities doubtless will continue to be emphasized for a long time through your 4-H projects, activities and counseling; but education which fits one for whatever comes will demand a frequent shifting of emphasis - purposes as well as the means for achieving purposes.

Time does not permit me to elaborate on each of these concepts, but I should like to relate an incident, which is relevant to two of them -- accepting responsibility and giving one's individual best:

When the talk veers around to the selfishness and irresponsibility of our teenagers, I recall a story that filtered out of Vietnam during the recent Lunar

New Year attacks upon Phan Thiet in the Central Highlands of South Vietnam.

The battle for Phan Thiet was drawing to a reluctant, growling close. The wooded hills and rice paddys still blossomed with flares -- all through the night. The dreary procession of blood-soaked stretchers through the aid station was continuous.

A little group of infantrymen down the road leading to the U. S. regimental command post formed into a column of twos, and counting softly, came marching up.

Captain Costello, the regimental adjutant, was in a damaged bunker alternately bellowing at his men and muttering about what company needed how many men and where was he supposed to get them. The little file of soldiers stopped before him, very military.

"Detail, halt. Whan, two. At ease."

They were all thin, dressed in clean but mismatched dungaries. None of them had weapons or web gear. Each one wore a battered helmet. The man in charge -- the only private first class in the group, hence the senior -- saluted the captain and said, "Private First Class Smith and 14 men, reporting from the hospital, sir."

"Fourteen men when I need 400!" Thus adjutants and gratitude. "Okay, son. You got a roster? You just discharged from the hospital?"

"No, Sir, we're not discharged. We're over the hill." Up front a machine gun submitted horrid comment. "None of us was hurt very bad, sir. We heard you were shorthanded. We came up to help out."

They had been out of it, wounded early in the battle and taken to the division hospital at the base of the ridge. Now they had run away from safety and some comfort to come back, "to help out."

Not one of those 15 warriors had passed his 18th birthday.

Costello, ill-equipped to deal with emotion, started shouting, detailing them to the companies in the line. The first flare of the evening went up. The teenagers went back to war.

I believe that education must provide an exposure to greatness if it is to fulfill its purpose. We must provide the means whereby students are transformed into rational, ideal men and women. "Give light, and people will find their own way," said the motto printed in the masthead of a chain of newspapers that was prominent in the first half of this century. Let me cite two other examples of student initiative and self reliance which reflect a high degree of adult motivation:

Brian Cook, a ninth-grade student at St. George High School, St. George, Maine, wrote the following letter to the admissions office at the Massachusetts Institute of Technology: "MIT is my big aim in '69. Besides achieving "A"s in Algebra, reading everything I can get my eyes on in the field of all phases of space and science, and going without shoes to save money - I need additional information: Tuition, Scholarships, Careers in Space Exploration, and Rocket Engineering. I am third in line in a family of five expensive, hungry children, and my father is a lobster fisherman. This adds up to the fact that what becomes of me will depend on me mostly. Do you have any special advice so every minute will count in the next three and a half years? I am coming to MIT somehow -- and you will be glad to see me."

And William Frazer, a Pacoima, California, junior high school student, who did a nice piece of original research for a paper on history. He wrote to Japanese Vice Admiral Kiyohide Shima to ask why he withdrew his forces from the crucial battle of Leyte Gulf in October of 1944. The Admiral, impressed by Bill's "eagerness and enthusiasm to find out the truth," wrote back a 2000 word explanation of the retreat that had puzzled historians for more than 20 years. His explanation: He feared a trap that would lead to the destruction of his fleet.

Critical thinking, and the development thereof in students, is mandatory in the training program which aspires to prepare students for whatever may come. Through training, example, and experience, pupils develop their abilities to respond with logical thought rather than emotion. Filling the student with information is simply not enough; rather, the acquisition of information and critical thinking about what that information means must go on concurrently.

"Impotency, not impartiality, is achieved by the youth leader who keeps his own convictions hidden. The teacher who presents all sides of a controversial issue and then says 'Now, students, make up your own minds where you stand,' is perhaps nobly motivated. But he is sadly misguided. If a teacher makes a virtue out of keeping his thoughts hidden, he can hardly condemn his students for wondering what he thinks or whether thinking really matters at all."

The teacher's expression of belief, however, should be "in the interest of objectivity," letting his students know where he stands so they can take into account any bias, and to weigh his opinion in reaching their own decisions.

It is possible for men to learn to discuss without discounting the motives of one's adversaries, to disagree without being disagreeable, and to differ without doubting the integrity of one's fellow men. To teach these skills remains the abiding task of our educational institutions.

Educational organizations must support, not stifle, creative teaching if they are to prepare their students for whatever may come. Innovation and experimentation should be encouraged at all levels of the educational ladder.

In my opinion, one of the most stimulating and profound publications of the past decade is "Self Renewal. . ." by Dr. John W. Gardner who recently resigned his position as Secretary of Health, Education, and Welfare. One chapter in this provocative book is entitled "The Renewal of Organizations," and contains a list of rules for organizational renewal, some of which are relevant to each of the agencies represented here this evening:

> Gardner's first rule is that the organization must have a hard-hitting program for the recruitment and development of talent. People are the ultimate source of renewal. In other words, there must be positive, constructive programs of career development.
>
> The second rule for the organization capable of continuous renewal is that it must be a hospitable environment for the individual. Organizations that have killed the spark of individuality in their members will have greatly diminished their capacity for change.
>
> Another requirement is fluidity of internal structure. Most organizations have a structure that was designed to solve problems that no longer exist.
>
> Another of Gardner's rules is that the organization capable of continuous renewal is more interested in what it is going to become than in what it has been. It is interested in the evolving future and not in the glorious past.
>
> The final rule is an obvious , but a very difficult one. An organization runs on motivation, on conviction, on morale. Men and women have to believe that it really makes a difference whether they do well or badly. They have to care. They have to believe that there is a chance of accomplishing something. They have to believe that their efforts as individuals will mean something for the whole organization, and will be recognized by the whole organization.

It must never be forgotten that the ultimate product in any society is people. All other things are intermediate -- a part of the process. No matter how rich we are or how powerful we are, if we do not produce people who at least approach the enormous potential of man, the society must be adjudged a failure.

The basic strategy for preparing youth for whatever may come is leadership; and much of this leadership must be provided by such people as you. I commend each of you volunteer leaders for your unselfish service to the children and youth of our State, and wish you continued success in your respective programs.